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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/322,663 05/28/99 SHEPARD

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IM52/1107

EXAMINER

REFUND...

ART UNIT

PAPER NUMBER

1771

DATE MAILED:

11/07/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/322,663

Applicant(s)

SHEPARD ET AL.

Examiner

Jenna Befumo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6, 7, 9 and 11-86 is/are pending in the application.
- 4a) Of the above claim(s) 22-86 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7, 9 and 11-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3, 5, 6. 6) ☐ Other: _____

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DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1 - 4, 6, 7, 9, and 11 - 21 in Paper No. 10 is acknowledged.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 1 - 4, 6, 7, 9, and 11 - 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. The phrase "generally sheet-form web body" in claim 1 is indefinite. What is a "generally sheet-form web body"? Is it the same as a nonwoven web or sheet? Or is the "form" of the "web body" different than a nonwoven web or sheet? Claims 2 - 4, 6, 7, 9, and 11 - 21 are rejected for their dependency on claim 1.
5. Claim 4 recites the limitation "the material" in line 1. There is insufficient antecedent basis for this limitation in the claim. Is this the hook-engageable material or another material in the laminate? Claims 11, 13, 15, and 16 are similarly rejected. Claim 12 is rejected due to its dependency on claim 11.
6. The term "high areal density" in claim 7 is a relative term which renders the claim indefinite. The term "high areal density" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would

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not be reasonably apprised of the scope of the invention. What is considered to be an area with a "high areal density"?

7. The term "low areal density" in claim 7 is a relative term which renders the claim indefinite. The term "low areal density" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. What is considered to be an area with a "low areal density"?

8. The phrase "ratio of high to low areal densities" in claim 7 is indefinite. It is unclear if the ratio is the number of "high areal density" areas to the number of "low areal density" areas. Or, if it is the ratio of the density of the "high areal density" areas to the density of the "low areal density" areas. Or if it is the ratio of the total amount of area which comprises "high areal density" to the total amount of the area which comprises "low areal density".

9. The phrase "an image visible from the surface of the material comprises the effects of light reflected by printing on said second surface" in claim 11 is indefinite. What are the "effects of light reflected by printing"? Are the effects something beyond the fact that the light is reflected into the eye so that the image is seen by the observer? Claim 12 is rejected due to its dependency on claim 11.

10. The term "a few millimeters" in claim 12 is a relative term which renders the claim indefinite. The term "a few millimeters" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. How many millimeters are a few?

11. The phrase "comprising a disposable sheet" in claim 17 is indefinite. It is unclear if the Applicant is claiming an additional sheet in the laminate which is disposable. Or, if instead, the Applicant is stating that one of the substrate or the nonwoven material layers in the laminate is disposable?

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1 - 4, 6, 7, 9, and 11 - 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nemec et al. (6,010,387) in view of Shepard et al. (WO 99/11452), Lemelson et al. (3,857,566), Powell (5,603,504), and Bricker (5,664,780).

Nemec et al. discloses a display system which comprises a display panel with a first and second outer covering, wherein at least one of the outer covering layers is a hook or loop fabric (abstract). The display system can be used to produce three-dimensional figures that are readily disassembled and reassembled in various ways (column 2, lines 1 - 5). The loop material is applied to plastic corrugated board (column 4, lines 18 - 25). The corrugated board would inherently have a corrugated core with a spaced apart flute region and smooth outer sheets on both sides of the fluted core region. Nemec et al. also discloses the materials applied to the panels can be various sizes and colors (column 3, lines 65 - 67). The display system can be used in classrooms and convention booths. Nemec et al. fails to teach the specific structure of the loop material applied to the display system.

Shepard et al. is drawn to lightweight nonwoven material. Shepard et al. discloses a nonwoven loop material having hook-engageable fibers (page 1, lines 29 – 31). The nonwoven material has a weight of less than 4 oz/yd² (page 1, line 35), preferably less than 2 oz/yd² (page 2, line 24). The nonwoven material comprises a varied density including areas of high concentrations of fibers and areas of low concentrations of fibers (page 2, lines 1 – 6). The web is stabilized by a binder added from about 20 to about 40 percent based on the weight of the web (page 2, line 28 – page 3, line 2). Additionally, the web is stabilized in a stretched condition (page 3, lines 22 – 27). Finally, Shepard et al. teach that the nonwoven web can be used in disposable articles (page 5, lines 23 – 24). The nonwoven loop fabric taught by Shepard et al. is not only light weight, but since it is made via a nonwoven process it less expensive than knit or woven loop fabrics. Thus, it would have been obvious to one having ordinary skill in the art to substitute the nonwoven loop material taught by Shepard et al. for the loop material used in the display system taught by Nemec et al. because the lightweight nonwoven loop fabric is less expensive than knit or woven loop fabrics to produce.

Although Nemec et al, discloses different color pieces are attached to the display, Nemec et al. fails to teach applying graphic images to the loop material on the display board. Lemelson et al., Powell, and Bricker are drawn to hook-engageable loop fabrics. Lemelson et al. discloses a dartboard made of hook engageable material (column 2, lines 28 – 33). The dartboard, shown in Figure 1, has a graphic image applied to the hook-engageable material. Powell et al. shows a game board to which a marker or ball is releasably attached (column 1, lines 64 – 67). The game board has lines and figures, shown in Figure 4, which are painted or silk screened onto a cloth haven a roughen surface (column 2, lines 58 – 63). Finally, Bricker discloses a tracking system

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which comprises a board with an image of a baseball field printed on the surface (Figure 1). The board is made from a material to which tokens can be releasably anchored (column 5, lines 22 – 24), such as VELCRO hook and loop material (column 5, line 36). As shown by these three references, it is well known to apply graphic images to the loop material of hook and loop fabrics. Therefore, it would have been obvious to one having ordinary skill in the art to apply a graphic image to the loop material on the display unit taught by Nemec et al. to increase the number of designs that can be produced with the attachable pieces or to change the background of the drawings. Also, since Nemec et al. disclose the display can be used as a display system in conventions, it would have been obvious to one having ordinary skill in the art to apply the logo or trademarks of a specific company to the display to make it easier for people to recognize or locate a specific trade booth. Therefore, claims 1 – 4, 6, 7, 17 – 19 and 21 are rejected.

A graphic design applied to the nonwoven taught by Shepard et al. would be applied to the hook-engaging fibers when applied to the side of the web with the hook-engageable fibers, i.e., the side that faces away from the core and the side on which the releasably attached materials are placed. This is the side, which corresponds to the Applicant's second side and which would be seen by an observer looking at the display. Thus, claims 9, 13, and 14 are rejected. Since light inherently reflects off of images and into the observer's eye so that the image is seen by the observers, an image placed on the nonwoven loop material would reflect light. Therefore, claim 11 is rejected.

Also, since the nonwoven loop material taught by Shepard et al. has low and high density areas it would have been obvious to one having ordinary skill in the art to apply the graphic image to the display laminate and not just the nonwoven material to produce a clearer image. In

the areas of low density, the ink would bleed through the nonwoven to the other side of the nonwoven material and the substrate. Therefore, claims 15 and 16 are rejected.

Further the resolution of the image is due to the printing method as well as the material to which the ink is applied. Thus, it would be obvious to one having ordinary skill in the art to use a high resolution printing method to produce an image that is clear and has a resolution to within a "few" millimeters. Therefore, claim 12 is rejected.

Finally, the corrugated core would comprise flute regions which are attached, at the spaced apart flute regions, to the other layers in the laminate. Therefore, the hook-engageable material would be attached to the flute region, since the hook-engageable material is attached to the corrugated core which contains the flute regions. Thus, claim 20 is rejected.

14. Claims 1, 2, 6, 9, and 11 – 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nemec et al. in view of Lawless (5,891,547), Lemelson et al., Powell, and Bricker.

The features of Nemec et al. have been set forth above. Nemec et al. fails to teach the structure of the loop material. Lawless is drawn to a hook-engageable material. Lawless discloses a nonwoven fabric comprising a plurality of loops for releasably engaging hooks, wherein the fabric has a weight of about 1.5 to 4.0 oz/yd² (abstract). The nonwoven material is produced by needle-punching which creates high and low density areas throughout the material (column 1, lines 39 – 40). A binder is added to the fabric to impart dimensional stability (column 3, lines 42 – 44). The nonwoven material is transparent, allowing a consumer to see a printed film beneath the loop component (column 4, lines 42 – 52). Additionally, Lawless discloses that the material can be used with disposable products (column 6, lines 63 – 65). Lawless discloses the nonwoven material is made by an efficient and cost-effective process

(column 3, lines 37 – 39). Thus, it would have been obvious to one having ordinary skill in the art to substitute the loop material taught by Lawless for the loop material on the display system of Nemec et al. because the Lawless loop material is more cost-effective than knit or woven loop fabrics..

Nemec et al. fails to teach applying a graphic image. The features of Powell, Lemelson et al., and Bricker have been set forth above. Lemelson et al., Powell, and Bricker all disclose hook-engageable loop materials with graphic images printed thereon. As mentioned above, it would have been obvious to one having ordinary skill in the art to apply a graphic image to the hook-engageable material in the display system taught by Nemec et al. to increase the figures and scenes that can be created by the attachable pieces and to improve the ability of the display to attract people when used in convention situations. Therefore, claims 1, 2, 6, 17 – 19, and 21 are rejected.

As noted above, the graphic design would be applied to the hook-engageable side of the fabric, which corresponds to the Applicant's second side, when applied as taught by Powell, Lemelson et al. and Bricker. Therefore, claims 9, 13, and 14 are rejected. Also the graphic design will reflect light, as stated above. Therefore, claim 11 is rejected. Additionally, it would be obvious to one having ordinary skill in the art to choose a printing process with a resolution within a "few" millimeters to produce a clear picture. Thus, claim 12 is rejected.

Also, the graphic would design when applied to the loop side of the hook-engageable material, would bleed through the thin, lightweight material, and appear on the opposite side of the hook-engageable material. Therefore, claim 15 is rejected.

Since Lawless discloses that the nonwoven material is transparent and that printed material can be seen through the nonwoven, it would have been obvious for one having ordinary skill in the art to apply the graphic to the surface behind the hook-engageable material so that the graphic design would not be ruined by consistently attaching and unattaching pieces to the surface of the display system. Therefore, claim 16 is rejected.

Additionally, as set forth above, the flute regions of the corrugated core would be attached to nonwoven loop material. Therefore, claim 20 is rejected.

15. Claims 1-4, 6, 7, 9, and 11 - 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lawless in view of Nemec et al., Lemelson et al., Powell, and Bricker.

The features of Lawless and Nemec et al. have been set forth above. It would have been obvious to one having ordinary skill in the art to use a corrugated board as a substrate for the nonwoven hook-engageable material taught by Lawless since the board will provide support to the nonwoven material during use, and it is lightweight and durable. Attaching the Lawless nonwoven material to the plastic substrate will also increase the marketability of the loop material.

Lawless fails to teach applying a graphic image. The features of Powell, Lemelson et al., and Bricker have been set forth above. Lemelson et al., Powell, and Bricker all disclose hook-engageable loop materials with graphic images printed thereon. As mentioned above, it would have been obvious to one having ordinary skill in the art to apply a graphic image to the hook-engageable material in the display system taught by Nemec et al. to increase the figures and scenes that can be created by the attachable pieces and to improve the ability of the display to

attract people when used in convention situations. Therefore, claims 1, 2, 6, 17 – 19, and 21 are rejected.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the binder in the claimed range, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Adding more binder would help to increase the bond strength of the fibers and increase the durability of the fabric. Therefore, claim 3 is rejected.

Further, it would have been obvious for one having ordinary skill in the art to attach the nonwoven material to the substrate while it is in a stretched or taut position to produce a planar surface and to prevent the material from being easily pulled off of the substrate when the releasably attached pieces are removed from the material. Therefore, claim 4 is rejected.

Additionally, Lawless discloses that the weight and transparency of the fabric directly relate to the needlepunching process (column 4, lines 4 – 16). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the claimed ratio of high areal density to low areal density, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). It would be obvious to optimize the needlepunch process, to produce a transparent, low weight fabric with the necessary strength and loops produced for the material to act as a hook-engageable fabric. Therefore, claim 7 is rejected.

As noted above, the graphic design would be applied to the hook-engageable side of the fabric, which corresponds to the Applicant's second side, when applied as taught by Powell,

Lemelson et al. and Bricker. Therefore, claims 9, 13, and 14 are rejected. Also the graphic design will reflect light, as stated above. Therefore, claim 11 is rejected. Additionally, it would be obvious to one having ordinary skill in the art to choose a printing process with a resolution within a "few" millimeters to produce a clear picture. Thus, claim 12 is rejected.

Also, the graphic would design when applied to the loop side of the hook-engageable material, would bleed through the thin, lightweight material, and appear on the opposite side of the hook-engageable material. Therefore, claim 15 is rejected.

Since Lawless discloses that the nonwoven material is transparent and that printed material can be seen through the nonwoven, it would have been obvious for one having ordinary skill in the art to apply the graphic to the surface behind the hook-engageable material so that the graphic design would not be ruined by consistently attaching and unattaching pieces to the surface of the display system. Therefore, claim 16 is rejected.

Additionally, as set forth above, the flute regions of the corrugated core would be

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jenna Befumo whose telephone number is (703) 605-1170. The examiner can normally be reached on Monday - Friday (9:00 - 5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3599 for regular communications and (703) 872-9311 for After Final communications.


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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Jenna-Leigh Befumo
November 5, 2001



CHERYL A. JUSKA
PRIMARY EXAMINER